

STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE

DOCKET NO. 2015-01

**PREFILED DIRECT TESTIMONY OF PAUL N. BOGAN,
VICE PRESIDENT OF SEA-3, INC.**

June 26, 2015

1 **Qualifications**

2 **Q. Please state your name and address.**

3 A. My name is Paul N. Bogan and I live at 134 Echo Avenue in Portsmouth, New
4 Hampshire.

5 **Q. How long have you lived there?**

6 A. I've lived there since 1977.

7 **Q. How are you employed?**

8 A. I am employed as the Vice President of Operations for SEA-3, Inc.

9 **Q. Describe your background and qualifications.**

10 A. I have been employed in the liquefied gas industry for over 45 years. My career
11 began in the United States Navy, where I graduated from the Navy's Liquid Oxygen and
12 Nitrogen School, following which I was involved in the production and distribution of liquid
13 oxygen and nitrogen for the Navy. After leaving the Navy, I was employed for 4 years by
14 Distrigas Corporation, which imported and distributed Liquefied Natural Gas from its facility in
15 Everett, MA. Since 1975, I have been continuously employed by SEA-3, during which time I
16 have been heavily involved in the construction, startup and operation of SEA-3's Newington
17 propane storage facility and its sister terminal in Tampa, FL. I hold an Associate Degree in
18 Machine Design Engineering from the Wentworth Institute in Boston, MA, and I have also

1 completed engineering course work at Northeastern University's Lincoln College in Boston,
2 MA. I am a graduate of the Ansul Fire Training School and also of Texas A&M University's
3 Industrial Firefighting School. I am a past Executive Committee member and past Chairman of
4 the Propane Gas Association of New England. I am also a past Chairman of the Propane Gas
5 Association of New England's Emergency Response Committee. I have served as the National
6 Propane Gas Association's Emergency Response Curriculum Development Task Force Member
7 for the Propane Emergencies Program. I have served as the LPG Emergency Response Training
8 Course Instructor for the Massachusetts Firefighting Academy and as the Developer of
9 Curriculum and Training Equipment for the Massachusetts Firefighting Academy's LNG/LPG
10 Firefighting Course. I am currently a Member of the National Fire Protection Association's
11 Technical Committee on Liquefied Petroleum Gases, which is responsible for drafting the
12 Liquefied Petroleum Gas Code otherwise known as NFPA 58.

13 **Q Describe your current employment responsibilities with SEA-3.**

14 A. As VP of Operations, I am directly responsible for the daily operations of both the
15 Newington, NH and Tampa, FL terminals. In that capacity, I oversee and direct safety,
16 operations procedures, personnel, budgets, new projects, improvements, etc. I also make sure we
17 meet or exceed all federal, state and local laws and requirements. I am responsible for all
18 personnel matters and make sure everyone complies with all Sea-3 employee manuals.

19 **Purpose of Testimony**

20 **Q. What is the purpose of your testimony?**

21 A. The purpose of my testimony is to inform the Site Evaluation Committee regarding the
22 history and operation of SEA-3's Newington facility, the reasons for the proposed improvements
23 to that facility, what the proposed improvements are, how the facility will operate once the

1 proposed improvements are constructed and the existing laws and regulations that currently
2 regulate SEA-3's operations.

3 **Q. What is propane?**

4 A. Propane is a hydrocarbon, C₃H₈. It's also known as liquefied petroleum gas, LP-gas or
5 LPG. Propane is a byproduct of both natural gas processing and crude oil refining. It's nontoxic,
6 colorless and odorless. To keep it in its liquid form, at atmosphere pressure, propane must be
7 chilled to -42° F. If the temperature of propane exceeds -42° F, it will begin to vaporize unless it
8 is kept under pressure.

9 **Q. Is propane flammable?**

10 A. Yes. When propane begins to vaporize and mixes with air, it becomes flammable once
11 the concentration of propane is reduced to 9.6% and it remains flammable until the
12 concentration of propane decreases to 2.15%. Below the 2.15% concentration level, propane is
13 no longer flammable. In other words, propane at 100% concentration is too rich to burn, but
14 once propane begins to vaporize and mixes with air, it will become flammable once its
15 concentration is reduced to 9.6% . Once the concentration drops below 2.15%, the mixture
16 becomes too lean to burn.

17 **Q. What is NFPA 58?**

18 A. NFPA 58 is an extensive set of safety standards developed by the National Fire
19 Protection Association to govern the operation of liquefied petroleum gas systems, i.e. LPG. It's
20 been developed for adoption by governments that want to regulate the use of liquefied petroleum
21 gas.

22 **Q. What is the purpose of NFPA 58?**

1 A. It is the industry's benchmark for safe LP-Gas storage, handling, transportation and use.
2 NFPA 58 mitigates risks and ensures safe installations, to prevent failures, leaks, and tampering
3 that could lead to fires and explosions.

4 **Q. Is propane a liquefied petroleum gas?**

5 A. Yes.

6 **Q. Has New Hampshire adopted NFPA 58?**

7 A. Yes. SEA-3's Newington facility must meet NFPA 58 under both the State Fire Code
8 and the Town of Newington's Zoning Ordinance. The State Fire Code adopts the 2011 version
9 of NFPA 58 while the Town of Newington's Zoning Ordinance does not specify a version.

10 **Existing Facility**

11 **Q. Describe SEA-3's Newington facility.**

12 A. SEA-3 built the facility in 1975. The facility is staffed 24 hours a day, 365 days a year
13 by 16 employees. These employees receive extensive training in both operations and safety and
14 utilize automated and manual equipment and technology to operate the Facility and ensure its
15 safety and security. During the 40 years that the Facility has been in operation, there have been
16 no explosions, fires, significant injuries, OSHA reported incidents or major environmental
17 incidents. The facility sits on two different parcels separated by the rail line. The upper lot on
18 the west side of the rail line has the main building which contains our offices, the control rooms,
19 the refrigeration plant and boiler. The upper lot also has the truck loading rack, which has five
20 individual loading berths and the refrigerated storage tanks and associated piping. When the
21 facility was originally constructed, we installed just the 400,000 barrel refrigerated storage tank
22 plus a smaller 60,000 gallon pressurized storage tank that supplies the truck loading stations.
23 The 160,000 barrel storage tank was built later. On the lower lot, closest to the river, we

1 constructed a flat, hard-packed gravel area surrounded by a security fence. Inside the fence we
2 have a small storage building, a rail spur with three railcar unloading berths that have been used
3 since 1975 and associated loading/unloading equipment and a flare.

4 **Q. Has SEA-3 made any changes to the facility since its construction?**

5 A. Yes. Besides the normal updating and replacement of existing equipment, we added the
6 second refrigerated storage tank in the late 1990's.

7 **Q. How much of an increase was that to your storage capacity?**

8 A. The second refrigerated storage tank added 160,000 barrels, or 6.72 million gallons, of
9 storage capacity to our existing capacity of 400,000 barrels, or 16.8 million gallons, so that
10 represented a forty percent increase in storage capacity.

11 **Q. Did you need to obtain approvals for the construction of that second storage tank?**

12 A. Yes. We applied for and received site plan approval from the Town of Newington and
13 we also applied for and received an Exemption from the Site Evaluation Committee for the
14 construction of the second tank.

15 **Q. So I'm clear, in the late 1990's SEA-3 increased its LPG storage capacity by 6.7**
16 **million gallons or 40% and you were granted an exemption from the Site Evaluation**
17 **Committee?**

18 A. Yes

19 **Q. How much would the current proposed expansion add to the LPG storage**
20 **capacity?**

21 A. 270,000 gallons, or about 1.1%

22 **Q. Will the proposed expansion increase the land area of SEA-3's facility?**

1 A. Everything except for the new rail siding and berths will be on SEA-3's existing
2 property. The new rail siding and berths will be located on a narrow strip of land next to the
3 existing rail line that separates SEA-3's two lots from each other. SEA-3 will lease that strip of
4 land from Pan Am. There will be no outward expansion of the facility, just an expansion onto
5 the narrow strip of Pan Am's property that separates SEA-3's two lots.

6 **Q. Describe the operation of the facility.**

7 A. For the past 40 years, the facility has distributed propane to the New Hampshire and New
8 England markets, up to 170 Million gallons of propane per year. The majority of this propane
9 arrives at the facility from North Africa and the Middle East by ship. Typically, the facility
10 would receive approximately 12-13 ships per year. The ships dock at the neighboring Sprague
11 Terminal on the Piscataqua River to unload. There is an existing pipeline that starts at the
12 Sprague dock and it comes onto SEA-3's property on the lower lot, travels over the rail line and
13 goes to the two large refrigerated storage tanks on the upper lot. Propane that arrives by ship has
14 already been refrigerated to -42° F. The refrigerated propane is pumped from the ship, through
15 the pipeline and into the refrigerated storage tanks. To distribute propane to our customers, the
16 propane is pumped from the refrigerated storage tank to a heat exchanger on the upper lot where
17 it is warmed to + 40 degrees Fahrenheit. It is then piped over to the 60,000 gallon distribution
18 tank and out to the truck loading rack where it is odorized just prior to being loaded onto our
19 customers trucks.

20 **Q. Is the propane that arrives by ship odorized?**

21 A. No. While propane will remain liquid at - 42° F, the chemical used to odorize propane
22 will freeze at that temperature. Consequently, propane that is going to be refrigerated for storage

1 can't be odorized because the odorant will freeze inside of the refrigeration equipment, causing it
2 to fail.

3 **Q. How much propane can one ship deliver?**

4 A. It depends on the size of the ship but most of our ship deliveries are between ten and 16
5 million gallons.

6 **Q. Do you currently receive propane via railcar?**

7 A. Yes. The facility also receives propane via rail car. The facility has three rail unloading
8 berths which can each handle two railcars for a total unloading capacity of six cars per day.

9 **Q. How much propane does a railcar hold?**

10 A. Each railcar can hold approximately 33,000 gallons.

11 **Q. How are the railcars unloaded?**

12 A. I've described the rail car unloading process to be used in the proposed expansion in
13 detail in my Statement that was previously submitted to the Site Evaluation Committee, a copy
14 of which is attached to my testimony as PNB Exhibit 1. Our current unloading process, which is
15 basically the same, is as follows. The railcars are brought into our security perimeter by Pan Am
16 and positioned at the rail unloading berths. After Pan Am's engine leaves the property, the
17 security fence is shut, the railcars are fixed in place and a safety inspection of the railcar is
18 performed. The safety inspection information is recorded on SEA-3's Railcar Unloading
19 Checklist. Any discrepancies resulting from the inspection are immediately reported to the
20 facility's main control room and no further unloading action is taken until the discrepancy is
21 investigated and resolved. After satisfactory completion of the initial railcar inspection, SEA-3
22 personnel attach emergency shut off valves to the rail cars. These can be manually operated at
23 the rail car as well as automatically operated from the rail berth platform and also from the

1 facility's main control room on the upper lot, which continuously monitors the rail unloading
2 process on closed circuit television. The unloading hoses are then attached to the emergency
3 shut off valves. The opposite ends of the unloading hoses are fastened to fixed transmission
4 pipelines constructed of rigid steel that lead to the refrigerated storage tanks. Upon connection
5 of the emergency shut off valves and unloading hoses, SEA-3 personnel perform further
6 inspections and tests and the results are recorded on the Railcar Unloading Checklist. Upon
7 satisfactory completion of all inspections and tests, the unloading process begins by opening the
8 liquid eduction and vapor valves, checking for leaks, and then opening the liquid and vapor hose
9 valves and other system valves. A compressor then pumps vapor into the railcar through the
10 vapor valve and when the pressure differential between the rail car and the 60,000 gallon storage
11 tank on the upper lot reaches approximately 10-15 psig, or pounds per square inch guage, the
12 propane begins to flow out of the railcar through the pipeline to the 60,000 gallon storage tank on
13 the upper lot. Throughout the unloading operation, SEA-3 personnel visually inspect the railcars
14 for any sign of leakage. If any leaks or other problems are detected, the operation is immediately
15 shut down. In addition to human monitoring, temperature and pressure monitors are attached to
16 equipment utilized in the operation. If any reading falls outside of the accepted parameters,
17 alarms sound in the main control room, all unloading equipment is either shutdown automatically
18 or manually and all valves are automatically closed. The unloading process is also monitored by
19 gas and fire detection systems that also have the ability to shut down the unloading process in the
20 event an unsafe condition is detected. Once the railcars are empty, the compressors are shut
21 down, all of the valves are closed and the unloading hoses are drained and then disconnected.
22 After final temperature and pressure readings are taken from the railcars, the dome covers are

1 closed and the railcars are left in place to be removed from the facility by Pan Am, the railroad
2 operator.

3 **Q. Do you currently have the ability to refrigerate propane that arrives at your facility**
4 **by railcar?**

5 A. No. Although we do have an existing refrigeration plant in the main building on the
6 upper lot that equipment is needed to regulate the refrigerated storage tanks pressure. As
7 propane in the refrigerated storage tanks warms, it gives off vapor. This vapor is collected and
8 piped to the refrigeration plant in the main building where it is condensed and refrigerated back
9 to -42° F and returned to the refrigerated storage tanks. Consequently, all of the propane that we
10 now receive by railcar goes right to the 60,000 gallon tank for immediate distribution.

11 **Reasons for the Proposed Improvements**

12 **Q. Why is SEA-3 seeking to increase its railcar offloading capacity?**

13 A. Basically, the energy market has changed and we now need to increase our access to
14 domestic propane which we can only get by rail.

15 **Q. How has the market changed?**

16 A. For decades, New England's propane has come from international sources such as North
17 Africa and the Middle East because international prices were always cheaper and there wasn't a
18 lot of domestic propane being produced. Several years ago, that all changed due to new drilling
19 techniques which have increased North American production of oil and gas. Propane is a
20 byproduct of that production. As production of domestic propane has increased, its price has
21 come down. At the same time, international propane prices have gone up. Consequently,
22 shipping foreign propane to New England is no longer economically viable. In order for New
23 Hampshire customers to benefit from this new more affordable, dependable supply of domestic

1 propane that is now being produced right here in our own country we need to provide access to
2 it.

3 **Q. Why don't you have domestic propane delivered to your facility by ship?**

4 A. Federal law won't allow it. The Jones Act says that you can't ship propane from one
5 U.S. port to another unless the ship is made in the U.S., the ship is registered here and it's all
6 crewed by U.S. citizens. There are no LPG tankers in existence that meet those conditions.

7 **Q. How has this market change affected SEA-3's business?**

8 A. It has dramatically decreased our business.

9 **Q. I'd like you to look at a document that's been marked as PNB Exhibit 2 and tell me
10 what it is?**

11 A. It's a table that lists the number of truck transports from SEA-3's Facility for the period
12 2009-2014, both on an annual basis and on a daily basis in the busiest month of the year.

13 **Q. What does the table show?**

14 A. The table shows a sharp decrease in our business since 2009. For example, in 2009 we
15 filled 17,287 trucks and in 2013 we were down to 436. We did have a slight pickup in volume
16 in early 2014, when domestic prices spiked due to cold weather and pipeline supply issues, and
17 European prices came down. As a result, the price narrowed enough that we were able to bring
18 in several ships in early 2014. However, going forward I expect international propane will
19 generally be priced out of the New England market unless special circumstances arise.

20 **Q. What does this mean for SEA-3?**

21 A. It means that we will no longer be able to bring in enough propane to fill our storage
22 tanks. Essentially, it puts us out of business as a storage facility.

23 **Q. Should this be a concern for others?**

1 A. Yes, it should.

2 **Q. Why is that?**

3 A. SEA-3 is the only large scale propane storage facility in Northern New England and it is
4 the only one in New England with direct rail access. Being able to store a large quantity of
5 propane here in New Hampshire, 23,520,000 gallons of it, provides security for the State by
6 establishing a reserve that can be released into the market during periods of peak demand. This
7 helps to stabilize prices and ensures that people don't go cold.

8 **Q. Is SEA-3's ability to store large quantities of propane at its facility a concern to the**
9 **State of New Hampshire?**

10 A. Yes.

11 **Q. How do you know that?**

12 A. Because every winter we are regularly contacted by the New Hampshire Office of Energy
13 and Planning and the U.S. Department of Energy's Energy Information Administration asking
14 how much propane we have in our storage tanks.

15 **Q. Where has New Hampshire been getting its propane from if it isn't coming through**
16 **your facility?**

17 A. It's coming into New Hampshire by railcar or truck.

18 **Q. Where are these trucks coming from?**

19 A. The closest source of product is the TEPPCO pipeline terminal in Selkirk, New York, just
20 south of Albany. Truckers will either pick up product there, or drive it in from the Midwest.

21 **Q. What about railroad deliveries, how is that propane arriving in the State?**

1 A. There are a few dealers that have their own pressurized storage tanks next to the rail
2 lines. For the rest of them, they are probably just offloading directly from the rail cars into their
3 trucks using equipment called “transloaders”.

4 **Q. Is that possible?**

5 A. Yes. There is equipment, called a transloader, that allows the railroad to empty the
6 railcars directly into the trucks.

7 **Q. Based on your knowledge, training and experience in the industry, is the process of**
8 **using transloaders to offload rail cars directly into trucks parked on a rail siding as safe as**
9 **offloading rail cars at a large fixed-facility such as SEA-3’s Newington facility?**

10 A. No. SEA-3 has installed gas and fire detection equipment coupled to automatic alarm
11 and shutdown systems, fire suppression water deluge equipment with fire pump, system process
12 alarms and shutdowns, surveillance CCTV cameras and a fenced in unloading area for security.
13 A transloader unloading system on a rail siding would, in all probability, not have any of these
14 systems.

15 **Q. What are some of the safety features inherent in a large fixed facility such as SEA-**
16 **3’s that may not be available when rail cars are offloaded into waiting trucks with**
17 **transload equipment?**

18 A. In addition to the safety features I just mentioned, we are regulated by the Environmental
19 Protection Agency and OSHA and are required to produce and follow a Risk Management Plan,
20 a Process Hazard Analysis and a maintain a Contingency Plan and Safety Standards and
21 Procedure Manual in addition to all the United States Coast Guard regulations that we are
22 required to follow as a maritime facility.

1 **Q. Can the existing truck and rail delivery system meet New Hampshire's propane**
2 **needs?**

3 A. Not during the winter heating season when we need it most.

4 **Q. Why is that?**

5 A. When we have severe winter weather and demand spikes, our dealers are all competing
6 against each other to get product delivered here from New York and the Midwest to meet
7 customer demand. There are only so many trucks and trains available to get the propane here so
8 we end up with a supply bottleneck. Without a local stockpile of propane already here in New
9 Hampshire, we face critical shortages.

10 **Q. Has that ever happened?**

11 A. Yes. In fact the New Hampshire Department of Safety declared an emergency in
12 December 2013, specifically citing the absence of propane at SEA-3's facility.

13 **Q. Do you know the purpose of declaring the emergency?**

14 A. The purpose was so that interstate truck drivers carrying propane here from the Midwest
15 could be excused from having to comply with their driving hour limitations in order to get the
16 propane here as quickly as possible because the State was running out of propane.

17 **Q. I'm showing you a document that's been marked PNB Exhibit 3, can you tell me**
18 **what that is?**

19 A. Yes, that's a copy of the New Hampshire Department of Safety's Declaration of
20 Emergency dated December 27, 2013, that I just mentioned.

21 **Q. Why can't SEA-3 provide the State with a propane reserve using its existing rail**
22 **offloading capacity?**

1 A. Our current capacity is too small. Even if we had equipment available to refrigerate the
2 current railcar deliveries so it could go into the storage tanks, we can only receive 6 rail cars per
3 day, which amounts to 186,000 gallons, enough to fill just 18 tank trucks. At that rate we're
4 going to be sending the propane out the gate as quickly as it comes in off the railcar so we would
5 never build and maintain a stockpile.

6 **Q. Are you familiar at all with the State of New Hampshire's 10 Year Energy Strategy**
7 **published in September 2014 by the Office of Energy and Planning?**

8 A. I have read portions of it.

9 **Q. I am showing you a document that has been marked as PNB Exhibit 4, can you**
10 **identify this Exhibit?**

11 A. It's a copy of the State Energy Strategy dated September 2014.

12 **Q. Does the State Energy Strategy address the issue of fuel diversity and choice?**

13 A. Yes.

14 **Q. What does it say?**

15 A. In the Executive Summary on page iii, it states, "Like other states in the Northeast, New
16 Hampshire imports all of the fossil fuels used in the state. As the sources and supply chains for
17 these fuels become increasingly global, the state has seen considerable volatility in both price
18 and supply. The New England region is more susceptible to these volatile conditions because it is
19 at the end of fuel distribution networks. As demand for all fuels increases on a global scale, these
20 challenges are not expected to ease, and overall prices are predicted to continue increasing. Now
21 more than ever there is a need for focused efforts to reduce New Hampshire's vulnerability to
22 price volatility and supply disruptions, and to expand our ability to be more flexible and resilient.

1 Diversifying our fuel portfolio and increasing the use of in-state resources are critical tools in
2 achieving those goals.”

3 **Q. Will SEA-3’s proposed improvements help eliminate price volatility and supply**
4 **disruptions for propane?**

5 A. Yes, having a large stockpile of propane here in New Hampshire during the critical
6 winter heating season will provide a dependable supply of propane to consumers throughout the
7 State. This in turn will help stabilize prices.

8 **Q. Does the State Energy Strategy mention propane anywhere?**

9 A. Yes. On page 7 in the Energy Overview section it states, “During the winter of 2013-
10 2014, constraints in both the deliverable (oil and propane) and regulated (natural gas) fuel sectors
11 caused price spikes that resulted in significant cost increases for consumer and businesses. These
12 events are a reminder of the state’s vulnerability to national and world events that impact both
13 the supply and the price of energy, and reminders of the need to focus on reducing our
14 vulnerability.” Also, on page 8 in the section on Demographics and Geography the document
15 states, “New England is at the end of the energy pipeline, and during times of high demand the
16 infrastructure may not have the capacity to meet demand. Natural gas supply has been
17 particularly challenged for the last several years, as thermal (heating) and electric generation
18 sectors have become increasingly reliant on the fuel. Similarly, tight propane supplies in the
19 Midwest during the winter of 2013-2014 was exacerbated by limited rail transport availability
20 and led to an expensive winter for many Northeast residents. Although this may be a short
21 term issue, in the longer term New Hampshire residents might find themselves competing for
22 fuel with international markets hungry for development and willing to pay. This makes
23 increasing in-state sources of fuel ever more important.”

1 **Proposed Improvements**

2 **Q. Describe the proposed improvements to the Facility.**

3 A. Five new rail berths will be constructed on land that SEA-3 will lease from Pan Am
4 Railways, adjacent to the existing rail line, bringing the total number of berths to eight. SEA-3's
5 security fence will be expanded to include the 5 new rail berths within the security fence
6 perimeter. Piping will be installed between the rail berths and the three new 90,000 gallon
7 ambient storage tanks where the offloaded propane will be stored prior to refrigeration. There
8 will be unloading compressors installed to assist in unloading the railcars. There will be new
9 pumps installed to pump the propane through the refrigeration system. There will be two drying
10 towers installed to remove moisture from the product prior to refrigeration. A machinery
11 building will be constructed to house the refrigeration units. The refrigerant used in the
12 refrigeration units will be condensed for re-use in a condenser cooling unit that will be located
13 outside of the machinery building and there will be a pipeline installed to transport the
14 refrigerated propane from the machinery building to the refrigerated storage tanks on the upper
15 lot.

16 **Q. Describe the actual offloading and refrigeration processes that will occur.**

17 I've described these processes in detail in my statement, which is attached as PNB Exhibit 1. In
18 more general terms, SEA-3 personnel will open the rail gate in the security fence to allow Pan
19 Am to bring in the railcars and position them at the rail unloading berths located on the sidings.
20 After the rail cars are positioned and Pan Am's locomotive leaves the facility, Sea-3 personnel
21 will chock the wheels to keep the railcars from moving and place signs indicating "Tankcar
22 Connected" at the entrance to the rail siding and close the gate to secure the perimeter. SEA-3
23 personnel will then perform a visual safety inspection of the railcars for defects, physical damage

1 and other condition issues. This inspection includes an examination of the railcar valves, all of
2 which are located on the top of the railcar underneath a protective hood or dome, which hinges
3 open. Each railcar's serial number, safety relief valve test dates, tank pressure test dates,
4 inbound seal number and temperature and pressure readings are recorded on the Railcar
5 Unloading Checklist. Any discrepancies resulting from the inspection are immediately reported
6 to the facility's main control room and no further unloading action is taken until the discrepancy
7 is investigated and resolved. Upon satisfactory completion of the initial railcar inspection, the
8 emergency shut off valves are attached to each railcar's liquid eduction and vapor valves. These
9 emergency shut off valves can be manually operated at the railcar as well as automatically
10 operated from the rail berth platform and from the facility's main control room, which monitors
11 the rail unloading process on closed circuit television. Upon connecting the emergency shut off
12 valves to the liquid eduction and vapor valves, the unloading hoses are attached to the emergency
13 shut off valves. The opposite ends of the unloading hoses are fastened to fixed transmission
14 pipelines. Upon connection of the emergency shut off valves and unloading hoses, SEA-3
15 personnel take a reading from the railcar's outage tube and perform a sniff test for the presence
16 of odorant and record the results on the Railcar Unloading Checklist. If warranted, further
17 product testing is performed. The product temperature and pressure is then recorded. Upon
18 satisfactory completion of all inspections and tests, the unloading process begins by opening the
19 liquid eduction and vapor valves, checking for leaks, and then opening the liquid and vapor hose
20 valves. This forms an open circuit leading from the railcars to the three (3) 90,000 gallon
21 ambient storage tanks, to the unloading compressors and then back to the railcars. The circuit
22 contains a vapor separator between the ambient storage tanks and unloading compressors which
23 prevents propane from reaching the unloading compressors. The unloading compressors draw

1 vapor from the ambient storage tanks and pump it at pressure into the railcars through the vapor
2 valves. This action increases the pressure inside the railcars and decreases pressure in the
3 ambient storage tanks. When the pressure differential reaches approximately 10 – 15 psig, LPG
4 begins flowing out of the railcars and into the storage tanks. Throughout the unloading
5 operation, SEA-3 personnel visually inspect the railcars for any sign of leakage. If any leaks or
6 other problems are detected, the operation is immediately shut down. In addition to human
7 monitoring, temperature and pressure monitors are attached to equipment utilized in the
8 operation. If any reading falls outside of the accepted parameters, all unloading equipment
9 is either shutdown automatically or manually and all emergency shutoff valves are automatically
10 closed. The unloading process is also monitored by gas and fire detection systems which also
11 have the ability to automatically shut down the unloading process in the event an unsafe
12 condition is detected. Once the railcars are empty, the compressors are shut down, all of the
13 valves are closed and the unloading hoses are drained and then disconnected. After final
14 temperature and pressure readings are taken from the railcars, the dome covers are closed. Once
15 the offloading process is complete the refrigeration process is commenced by starting the pumps
16 which send propane from the storage tanks, pressurize it and send it through a pipeline to the
17 drying tower to remove moisture from the product. The drying towers use a drying agent to
18 remove moisture from the propane. There are two drying towers. While one of the towers is in
19 use the other is being dried out by having heated vapor blown through it. After leaving the
20 drying tower the propane flows through a pipe to the machinery building where it is refrigerated
21 to minus 44 degrees Fahrenheit by running it through the refrigeration cycle. Once refrigerated,
22 the propane flows through a pipeline along the existing pipe rack assembly to the refrigerated
23 storage tanks for storage.

1 **Q. Are these processes monitored for safety?**

2 A. Yes. These processes are monitored at all times by SEA-3 personnel who are physically
3 present during the unloading and refrigeration processes and by personnel who remotely monitor
4 the processes from the facility's main control room. In addition to human monitoring, SEA-3
5 uses temperature and pressure monitors attached to each piece of equipment to ensure safe
6 operation. In the event of any unsafe reading, all unloading equipment is automatically turned
7 off and all valves are automatically closed. In addition to these measures, all processing areas
8 are continuously monitored by gas and fire detection systems. The fire detection system consists
9 of Infra-red Ultra-violet ("IRUV") flame detection monitors. Upon detecting any open flame,
10 the fire detection system will automatically shut down all operations and systems and close all
11 isolation valves. The system also automatically starts the fire water booster pump, activating the
12 high pressure deluge fire suppression system, and automatically sounds alarms in the main
13 control room and at the Newington, New Hampshire Fire Department. The gas detection system
14 monitors the air for the presence of gas vapors. If activated, the gas detection system
15 automatically sends an alarm to the Main Control Room. The operator on duty in the Main
16 Control Room will take appropriate action, up to and including shutting down all systems and
17 notifying the Newington Fire Department. All of these processes will be governed by written
18 operating procedures containing startup, operational and safety procedures and all employees
19 will be thoroughly trained in the proper operational and safety procedures of the system prior to
20 startup.

21 **Existing Regulations**

22 **Q. Is the Facility subject to government regulation?**

23 A. Yes, our Facility is highly regulated.

1 **Q Can you identify the regulations that apply to SEA-3?**

2 A. Yes. Because the Facility receives ocean going vessels, it's subject to the federal
3 Maritime Transportation Security Act of 2002, which requires SEA-3 to adopt a Facility Security
4 Plan that must be approved by the United States Coast Guard. The Security Plan requires SEA-3
5 to train all Facility personnel in emergency procedures and contingency plans, that we conduct
6 security drills every three months and maintain fencing, lighting, and surveillance and have a
7 backed-up communication system that provides continuous communication between our
8 personnel and national and local authorities having security responsibility. The Security Plan is
9 audited annually by an independent third party and its content is classified.

10 **Q. Are there other regulations that apply?**

11 A. Yes. In addition to the Maritime Transportation Security Act, SEA-3 is also subject to
12 separate regulation by the United States Coast Guard which requires that we maintain and
13 comply with a Standard Operating Procedures & Emergency Manual pursuant to 33 C.F.R.
14 §127.007.

15 **Q. I'm showing you a document that has been marked as PNB Exhibit 5, can you tell
16 me what it is?**

17 A. That is a copy of SEA-3's United States Coast Guard Standard Operating Procedures &
18 Emergency Manual.

19 **Q Are there any other federal regulations that SEA-3 is subject to?**

20 A. Yes. The facility is subject to the EPA's Risk Management Program regulations under
21 40 C.F.R. § 68, et seq., which require SEA-3 to maintain a Risk Management Plan that must be
22 updated every five years. The Risk Management Plan must contain a Hazard Assessment that
23 details the potential effects of an accidental release, an accident history of the last five years, and

1 an evaluation of worst-case and alternative accidental releases; a Prevention Program that
2 includes safety precautions and maintenance, monitoring, and employee training measures; and
3 an Emergency Response Program that spells out emergency health care, employee training
4 measures and procedures for informing the public and response agencies such as the fire
5 department should an accident occur.

6 **Q. What is the purpose of the Risk Management Plan?**

7 A. To protect our neighbors in the event of an accidental release.

8 **Q. I'm showing you two documents that have been marked together as PNB Exhibit 6,**
9 **can you tell me what they are?**

10 A. They are copies of our original Risk Management Plan and our most recent Amendment
11 to that Plan. Once the original Plan is filed and it comes time to renew it, the EPA requires that
12 we file an amendment, so that the Plan will always consist of the original Plan plus the most
13 recent Amendment.

14 **Q Are there are any other federal regulations that you must follow?**

15 A. Yes. SEA-3 must also follow OSHA's Process Hazard Analysis regulations for liquefied
16 petroleum gases set forth at 29 CFR § 1910.110, et seq. These regulations consist of 64 pages of
17 rules specific to the handling of liquefied petroleum gas and govern such things as: (1) odorizing
18 gases, (2) approval of equipment and systems, (3) requirements for construction and original test
19 of containers, (4) welding of containers, (5) markings on containers, (6) location of containers
20 and regulating equipment, (7) container valves and container accessories, (8) piping – including
21 pipe, tubing and fittings, (9) hose specifications, (10) safety devices, (11) vaporizer and housing,
22 (12) filling densities, (13) LP – gas in buildings, (14) transfer of liquids, (15) tank car or
23 transport truck loading or unloading points and operations, (16) instructions, (17) electrical

1 equipment and other sources of ignition, (18) fixed electrical equipment in classified areas and
2 (19) liquid level gauging devices. These Regulations also require SEA-3 to maintain a Process
3 Hazard Analysis Plan detailing the operational safety of the Facility that must be updated every 3
4 years and approved by OSHA.

5 **Q. What is the purpose of the Process Hazard Analysis?**

6 A. To protect our workers on the site and prevent accidental releases.

7 **Q. I'm showing you two documents that have been marked together as PNB Exhibit 7,
8 can you tell me what they are?**

9 A. Yes. These are copies of our initial Process Hazard Analysis and our most recent update
10 to that Analysis. Like with the EPA, OSHA requires that we periodically update the original
11 Analysis so that the Analysis will always consist of the initial Analysis together with the most
12 recent update.

13 **Q. Are you required to maintain any other documents by OSHA?**

14 A. Yes. Under the Process Hazard Analysis rules, we are required to maintain a
15 Contingency Plan as well as a Safety Standards and Procedures Manual and a Standard
16 Operating Procedures Manual.

17 **Q. I'm showing you a document that's been marked as PNB Exhibit 8, can you identify
18 it for me?**

19 A. That is a copy of the Contingency Plan we are required to maintain by OSHA.

20 **Q. What is the Contingency Plan?**

21 A. The Contingency Plan is a seventeen page document with attached exhibits that
22 establishes procedures to be followed in the event of an internal upset condition, an accidental
23 release or a terrorist incident at the facility. It was prepared by SEA-3 with the assistance of the

1 Newington Fire and Police Departments and the United States Coast Guard's Marine Safety
2 Office in Portland, ME. The Plan lays out in detail what is to happen in the event any of these
3 incidents occur. It covers everything from the initial response, to communications, mutual aid,
4 evacuation routes, down to site security.

5 **Q. What does the Contingency Plan say about Mutual Aid?**

6 A. Page 6 of the Contingency Plan notes that the purpose of Mutual Aid is to provide
7 cooperative fire protection throughout the seacoast area. The Mutual Aid agreement is between
8 cities and towns in Rockingham and Strafford Counties as well as York County, Maine and the
9 Portsmouth Naval Shipyard. These cities and towns and the Shipyard have designated their chief
10 fire officers to represent them. The chief fire officers meet at regular intervals to review and
11 update their mutual aid plans and discuss any issues may come up.

12 **Q. Do you know if the chief fire officers met to discuss SEA-3's proposed**
13 **improvements?**

14 A. Yes. In mid-March 2014, during the Newington Planning Board hearings, the area fire
15 chiefs met to discuss SEA-3's proposed improvements.

16 **Q. I am showing you a document that has been marked PNB Exhibit 9, can you**
17 **identify that for me?**

18 A. Yes. That is the news story that reports on the meeting of the area Fire Chiefs. I believe
19 this article is a part of the Newington Planning Board's Certified Record at pages 275 and 276.

20 **Q. Do you know what the area Fire Chiefs concluded?**

21 A. Yes. As reported in the Portsmouth Herald, Portsmouth's Fire Chief Steven E. Achilles
22 said they concluded that the proposed improvements do not present any significant hazards
23 beyond what currently exists.

1 **Q. Does the article indicate whether the area fire departments have received any**
2 **special training to respond to propane emergencies?**

3 A. Yes. Chief Achilles states that they have received training from the railroad and from the
4 propane industry and he also says they have a regional hazardous materials team in place to
5 respond to any incidents that may happen.

6 **Q. I'm now showing you a document that's been marked as PNB Exhibit 10, can you**
7 **identify this document?**

8 A. Yes. Its' a copy of our Safety Standards and Procedures Manual that we are required to
9 maintain by OSHA.

10 **Q. What is the Safety Standards and Procedures Manual for?**

11 A. This Manual sets forth SEA-3's policies, guidelines, standards and procedures which
12 have been designed to insure the safety of our workplace. It covers 21 different subject areas.

13 **Q. I am now showing you a document that has been marked as PNB Exhibit 11, can**
14 **you identify this Exhibit?**

15 A. Yes. It's a copy of our Standard Operating Procedures Manual that we are required to
16 maintain by OSHA.

17 **Q. What is the purpose of the Standard Operating Procedures Manual?**

18 A. The purpose of the Manual is to establish standards for the safe performance of the
19 procedures that are performed in the operation of the facility.

20 **Q. Do you currently have procedures established for the safe offloading of railcars?**

21 A. Yes. SOPM -15 and SOPM -15A govern our railroad tank car unloading operations.

22 **Q. Are there any other federal laws or regulations that SEA-3 is required to follow?**

1 A. Yes. The Facility must comply with the requirements of the EPA's National Pollutant
2 Discharge Elimination System ("NPDES") which is for the protection of water resources.

3 **Q. What about state laws and regulations?**

4 A. The Facility is subject to the New Hampshire State Fire Code and Building Code, which
5 mandate compliance with the National Fire Protection Association's Liquefied Petroleum Gas
6 Code or NFPA 58. NFPA 58 is a model code developed by the National Fire Protection
7 Association's Technical Committee on Liquefied Petroleum Gases, on which I serve. NFPA 58
8 establishes specific requirements for the design, construction, installation and operation of
9 marine terminals such as SEA-3's Newington Facility. The Facility is also regulated by the New
10 Hampshire Department of Environmental Services or DES. For this project we are required to
11 obtain an Alteration of Terrain Permit, a Shoreland Impact Permit and to amend our existing
12 Permit to Operate from the Air Resources Division.

13 **Q. Have you obtained those permits yet?**

14 A. We have obtained the Alteration of Terrain Permit and the Shoreland Impact Permit and
15 we have been advised by a representative of the Air Resources Division that we will need to
16 update our Permit to Operate once the improvements are built.

17 **Q. Are the proposed improvements subject to any local regulation?**

18 A. Yes. The proposed improvements are regulated by the Town of Newington's Zoning
19 Ordinance and its Site Plan Review Regulations.

20 **Q. What does the Newington Zoning Ordinance require?**

21 A. Among other things, it requires that we comply with NFPA 58.

22 **Q And what is NFPA 58?**

1 A. As I testified earlier, NFPA 58 is the industry standard for the safe storage, handling,
2 transportation and use of propane.

3 **Q. What do the Newington Site Plan Review Regulations require?**

4 A. The Regulations required SEA-3 to submit an application for site plan approval to the
5 Newington Planning Board informing the Board and the public of SEA-3's plans for the site.

6 **Q. What actions did the Planning Board take in response to SEA-3's application for
7 site plan approval?**

8 A. At their first meeting on the application, the Planning Board voted to designate the
9 project as having regional impact and it sent out notices to the communities of Portsmouth,
10 Greenland, Stratham and Newfields and the Rockingham Planning Commission.

11 **Q. Did the Rockingham Planning Commission hold any hearings?**

12 A. The Rockingham Planning Commission held a meeting of its Developments of Regional
13 Impact Committee which reviewed the project in January 2014.

14 **Q. Did the Committee make any recommendations regarding the proposed
15 developments on your site?**

16 A. They recommended having a post-development inspection to insure the improvements
17 are built in accordance with NFPA 58.

18 **Q. Did the Committee make any other recommendations having to do with the site?**

19 A. Not with the site, no.

20 **Q. What else did the Planning Board do?**

21 A. The Planning Board held seven public hearings on the proposed improvements over the
22 period November 2013 - May 2014.

23 **Q. What happened at these hearings?**

1 A. At these hearings there was extensive public comment, testimony and reports from fire
2 safety experts, transportation experts and testimony from representatives of the State of New
3 Hampshire Department of Transportation and the Federal Railroad Administration.

4 **Q. What was the end result of all these meetings?**

5 A. The Planning Board voted unanimously to approve the site plan on May 19, 2014.

6 **Q. Have these laws and regulations that you have just described changed over time?**

7 A. Yes. They have increased over time. For example, OSHA's Process Hazard Analysis
8 requirements went into effect in 1995, the Coast Guard's requirement to maintain a Standard
9 Operating Procedures Manual and Emergency Plan began in 1997, the EPA's Risk Management
10 Plan requirements went into effect in 2000, and the Maritime Transportation Security Act
11 became law in 2002.

12 **Q. Do you believe the federal, state and local laws and regulations that you have just**
13 **described adequately protect the public health and safety and the environment of this**
14 **State?**

15 A. Yes I do. This is demonstrated by the fact that SEA-3 has been following all applicable
16 federal, state and local laws and regulations for the past 40 years during which time we have had
17 no explosions, fires, significant injuries, reportable OSHA incidents or major environmental
18 incidents. We have followed all these applicable laws and regulations and we have an exemplary
19 safety and environmental record. This demonstrates that adequate protection exists.

20 **Q. Do you believe the State needs this project?**

21 A. Yes and I think the State's own Energy Strategy recognizes that the State needs this
22 project.

23 **Q. What will happen if SEA-3 is not granted the Exemption?**

1 A. It is going to cause a significant delay in the completion of this project. The equipment
2 we are talking about installing is expensive and much of it will need to be custom designed and
3 made to order. If the Exemption is denied then we are looking at another year to obtain
4 certification at which point we are into late 2016. Given the lead times involved, we would then
5 be looking at late 2017 or later to complete the project. The further out we go the more
6 unknowns there are.

7 **Q. What will happen during this period of delay?**

8 A. So long as SEA-3 is unable to maintain a stockpile of domestic propane, the state and
9 region will continue to experience periods of volatility for both propane supplies and prices.
10 Propane use in New Hampshire has grown rapidly in recent years and future periods of volatility
11 are likely to have an even bigger impact. In addition, the fact that SEA-3 has essentially been
12 eliminated as a large scale distributor of propane does not mean that propane is not coming into
13 New Hampshire. Propane continues to arrive, primarily by railroad. While rail is the most
14 efficient way to get propane here, the majority of it is now being unloaded on rail sidings directly
15 into waiting trucks by means of portable transloading equipment. From a safety standpoint, it's
16 far better to have propane unloaded by highly trained personnel at an established, large-scale,
17 fixed facility such as SEA-3's, which is subject to extensive federal regulation and has a full
18 complement of safety equipment. Unlike a mobile track side unloading operation, SEA-3
19 operates under a USCG approved security plan, a Risk Management Plan that is overseen by the
20 EPA, a Process Hazard Analysis overseen by OSHA , and it has a Contingency Plan, Safety
21 Standards and Procedures and Standard Operating Procedures. Unlike a track side unloading
22 operation, SEA-3's operations are overseen from a main control room that can remotely control
23 the entire unloading process. SEA-3's facility also has the benefit of gas and fire detection

1 systems and a fire suppression system. In the event of a fire, the fire detection system will
2 automatically shut down operations, sound alarms in the main control room and at the
3 Newington Fire Department and activate the water pumps for the fire suppression system. If
4 safety is the driving goal, then the State is far better off having its propane unloaded at SEA-3's
5 facility than on a rail siding.

List of Exhibits

- PNB Exhibit 1** - Statement of SEA-3, Inc.
- PNB Exhibit 2** - SEA-3 Truck Transport Table
- PNB Exhibit 3** - Declaration of Emergency
- PNB Exhibit 4** - State Energy Strategy
- PNB Exhibit 5** - USCG Standard Operating Procedures & Emergency
Manual
- PNB Exhibit 6** - EPA Risk Management Plan
- PNB Exhibit 7** - OSHA Process Hazard Analysis
- PNB Exhibit 8** - Contingency Plan
- PNB Exhibit 9** - Seacoastonline Article dated March 22, 2014
Fire chief: Propane expansion not a safety concern
- PNB Exhibit 10** - Safety Standards & Procedures Manual
- PNB Exhibit 11** - Standard Operating Procedures Manual